

ABSTRACT OF THE INVENTION

A method and system for performing a task on a computer is provided, in which the procedure is organized into multiple stages. Each stage of the task has an associated sub-task. Requests for the procedure are represented by “work packets” that stored in a holding area at each stage, such as a stack or a queue, until it is advantageous for a processor to execute them. Each work packet contains data and/or instructions for performing the sub-task of the stage. When a processor is available, it finds a stage having unexecuted work packets and executes a batch of work packets by repeatedly performing the sub-task of the stage. This repeated execution of a sub-task allows a processor to maximize its native time-saving mechanisms, such as cache. The invention may advantageously be used as an alternative to conventional thread-based programming.